

Serial No. 10/666,294
Amendment dated December 5, 2007
Reply to Office Action of November 16, 2007

REMARKS

Reconsideration of this application and the rejection of claims 1-17 and 26-32 are respectfully requested. Applicants have attempted to address every objection and ground for rejection in the Office Action dated May 16, 2007 (Paper No. 20070514) and believe the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

Claims 17 and 26-32 stand rejected under 35 U.S.C. §112 as being indefinite. Applicants acknowledge the indication of allowability of claims 26-32 upon resolution of the Section 112 rejection. As amended, claim 26 recites that the amount of fibers is represented by the fiber volume variable V_f which can be solved for in the recited formula. Claim 17 has been canceled, rendering that rejection moot. Accordingly, the rejection based on Section 112 is respectfully traversed.

Claims 1, 2, 3, 10, 13 and 14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Pearson (US 3,289,371) in view of Yano (US 3,972,972). Pearson describes a process of applying loose fibers to a wallboard production line, followed by application of settable slurry and then a further application of fibers. In Pearson, the fibers are applied to reinforce only that specific area of the slurry (Col. 5, l. 9-11). Further, in Col.2, l. 69-72, Pearson discloses that, in the formation of a gypsum roof deck, the glass fibers are applied to wet gypsum slurry and then pressed or rolled into the wet

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slurry surface of the gypsum. Still further, in the portions quoted by the Examiner, Pearson states that the roller 74 forces the upper paper against the top of the slurry and embeds the reinforcing fibers therein (Col. 5, lines 15-17). Not only is the contact between the roller and the slurry indirect, but by being applied through the face paper, the depth of embedment is limited to the surface layer, which is consistent with the other portions of Pearson. Thus, Pearson merely discloses passive mixing or minimal efforts for incorporating loose fibers into the slurry, and only into the surface layer.

An important feature of the board produced by the presently claimed process is that the fibers are distributed throughout the panel. This distribution is achieved largely by the claimed embedding step, a manipulative process by which the fibers are mixed throughout the slurry in a kneading or massaging action through direct contact with the slurry as described in the present specification. Also, such distribution is not achieved by passive mixing or surface rolling as described in Pearson, which results in only partial mixing of fibers and only at the upper or lower surface layers of the slurry.

To the extent Yano is included in this Section 102 rejection, the reference merely discloses mixing granular cementitious material and fibers with a surface treatment roller 21, by definition not an embedment device and not acting on a slurry. Further, the fibers and cementitious material is pressed into a mat using press rollers acting through upper and lower press belts (Col. 3, l. 28-42).

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More specifically, as amended, claim 1 recites, among other things, portions of original claim 9 and that the embedment step is practiced by actively embedding said second layer of individual, loose fibers into the slurry by directly contacting and creating a kneading or massaging action in said slurry to distribute said fibers throughout the slurry. Thus, neither Pearson nor Yano, taken alone or in any combination as contemplated by the Examiner, disclose or suggest such an embedment step in the context of the method now recited. Accordingly, the rejection based on Pearson in view of Yano is respectfully traversed.

Claims 4-9, 11-12 and 15-17 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Pearson (US 3,289,371). The arguments asserted above traversing Pearson are reasserted here. Specifically referring to claim 9, Pearson discloses a single roller 74 which as described above operates upon the face paper and as such performs mixing limited to the surface layer of the slurry. As amended, claim 9 recites providing at least one embedment device having parallel sets of intermeshed rotating disks. The step of providing such a structure is neither disclosed nor suggested by Pearson. Further, relating to claims 10 and 11, as operating through the face paper, Pearson's roller would not be subject to clogging by slurry and require cleaning as recited in claim 10, nor as a single roll would it apply multiple applications of kneading force as recited in claim 11.

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The Examiner has made sweeping generalizations about the alleged obviousness of using kneading steps in Pearson. However, as clearly disclosed in the reference, kneading cannot be performed when applied through face paper. Further, Pearson repeatedly states that the fibers are to be concentrated at the surface layers of the slurry. These facts combine to cause Pearson to teach away from the claimed method, rather than suggest its obviousness. Accordingly, the Section 103 rejection based on Pearson is respectfully traversed.

In view of the above amendments, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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